

### **Remarks**

Applicants have carefully considered this Application in connection with the Examiner's Action, and respectfully requests reconsideration of this Application in view of the foregoing amendment, and the following remarks.

Applicants appreciate the Examiner's helpful comments regarding the claim objections. Applicants have made each recommended change, but added no new subject matter. Specifically, claims 5 and 21 have been amended to recite "along a medial." Those objections are now moot. Claims 1 – 30 remain pending in the present application.

#### **Request for Correction of Inventorship under 37 C.F.R. § 1.48**

During prosecution of the present application, it has been found that due to error and without deceptive intent, inventorship was improperly set forth in the application as filed.

Applicants respectfully request that the inventorship should be reflected as: Felix W. Wehrli, Punam K. Saha, and Bryon Gomberg, as co-inventors of application No. 10/728,496.

During discussions regarding the present application with currently identified co-inventors, Dr. Wehrli and Dr. Saha, it has become quite clear that Bryon Gomberg is a co-inventor. It was an inadvertent and unintentional error that Bryon Gomberg was not correctly identified as a co-inventor at the time the patent application as filed.

Applicants, however, earnestly seek to correct the mistake in inventorship by a request to correct inventorship pursuant to 37 C.F.R. § 1.48. Included herewith and attached hereto are the following:

- i. Statement(s) under 37 C.F.R. § 1.48(a) regarding the addition of Bryon Gomberg as an inventor;
- ii. Newly executed declaration(s) under 37 C.F.R. § 1.63 by all named inventors;
- iii. Consent of the Assignee(s) of the patent application;
- iv. Applicable fee(s).

Applicants believe this submission meets the requirements pursuant to §1.48(a) and respectfully request that the correction in inventorship be entered in the present application in conjunction with this amendment.

#### **Response to the Rejection under 35 U.S.C. §101**

The Examiner has rejected claims 25-28 and 30 under 35 U.S.C. §101 as being directed

to non-statutory subject matter. However, in light of the Examiner's comments, claim 30 has been amended accordingly to demonstrate a physical structure or tangible material. Claims 25-28 and 30 have been amended to recite a "useful, concrete and tangible result", which is calculating structural thickness of an object of a digital image. The present invention allows images at low resolution, through the application of the algorithm of the invention, to be transformed into a revised image that provides structural thickness of objects, rather than blurry, low resolution images. The rejection is, therefore moot, and Applicants ask that it be withdrawn.

Response to the Rejection under 35 U.S.C. §112, first paragraph.

The Examiner has rejected claims 1, 17 and 19 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. However, Applicants respectfully disagree. The additional claim language "compiling a report or revised image based upon the FDT calculation" is disclosed in the specification and is not new matter.

Applicants direct the Examiner to paragraph 0076 of the specification, where Applicants discuss the algorithm. The specification teaches an input image and an output image. A FDT of 0.0 refers to the input image. Upon calculations based on the FDT algorithm, an output image is created. Specifically, see step 12 which expressly teaches "output the FDT image". As this is the "same" image that was used for FDT calculations, the output image is a "new" or "revised" image of the original. The algorithm terminates in a finite number of steps and when it does, it outputs the FDT image. It is, therefore, inherent that the image output is a revised image of the image input – in that the image has undergone a finite number of steps "modifying the fuzzy object." Again, a review of the disclosed algorithm at paragraph 76 provides an overview of the steps involved. Thus, the additional claim language "compiling a report or revised image based upon the FDT calculation" is not new matter because it is disclosed in the specification.

The rejection is, therefore moot, and Applicants ask that it be withdrawn.

Response to the Rejection under 35 U.S.C. §102(a).

The Examiner has rejected claims 1-21 and 25-30 under 35 U.S.C. §102(a) as anticipated by Gomberg *et al.* (*Comp. Vision and Image Understanding* 86:171-190 (June 2002)). In making this rejection, the Examiner notes that the rule states that "[a] person shall be entitled to a patent unless (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent. However, that is not the situation for this invention, as will be shown

below.

Applicants' invention was first filed as a provisional application (US 60/431,129) on December 5, 2002. The provisional filing contained a manuscript, which was subsequently published as Saha *et al.*, "Fuzzy distance transform: Theory, algorithms and applications," *Computer Vision and Image Understanding* 86:171-190 (2002)), although the title was changed from the title used on the manuscript submitted as the provisional filing. Nevertheless, the information contained in the provisional application remained the same as in the published paper.

The case law and MPEP 706.02(a) state that "an Applicant's own work, even though publicly disclosed prior to his application, may not be used against him as a reference, absent the existence of a time bar to his application." *In re DeBaun*, 214 USPQ 933, 935 (C.C.P.A. 1982). The time bar referred to is the 1-year time bar set forth in 35 U.S.C. §102(b) (the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States). Consequently, the case law states that:

One's own work is not prior art under §102(a), even though it has been disclosed to the public in a manner or form which otherwise would fall under §102(a). Disclosure to the public of one's own work constitutes a bar to the grant of a patent claiming the subject matter so disclosed (or subject matter obvious therefrom) only when the disclosure occurred more than one year prior to the date of the application, that is, when the disclosure creates a one year time bar under §102(b). *In re Katz*, 215 USPQ 14, 17 (C.C.P.A. 1982).

Applicants respectfully submit that in light of the correction of inventorship, the cited art is Applicants' own work. Accordingly, the cited "Fuzzy distance transform" paper is not an appropriate prior art reference under 102(a) against Applicants' invention. Applicants respectfully ask that the rejection under 35 U.S.C. §102(a) be reconsidered and withdrawn.

Response to the Rejection under 35 U.S.C. §103(a).

The Examiner has rejected claims 22-24 under 35 U.S.C. § 103(a) as unpatentable over Gomberg ("Fuzzy distance transform: Theory, algorithms and applications") in view of the Gomberg Doctoral Dissertation ("*In vivo* magnetic resonance based virtual bone biopsy"). In making this rejection, the Examiner points out that the teachings of Gomberg "fails to disclose or fairly suggest selecting a therapy based on the diagnosis or evaluation."

Applicants respectfully assert that in light of the amendments to the claims and the correction of inventorship, this point of rejection is now moot. As discussed above, the cited paper "Fuzzy distance transform: Theory, algorithms and applications" is Applicants' own work, and as such is inappropriate as a prior art reference.

As a result, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

Conclusion:

Applicants assert that all pending claims are in condition for allowance. Consequently, Applicants respectfully requests that allowance be granted at the earliest date possible. Should the Examiner have any questions or comments regarding Applicants' Response, the Examiner is asked to contact Applicants' undersigned representative at (215) 772-7550.

Respectfully submitted,

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